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Using an interactive whiteboard in vocabulary teaching

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Abstract

This research aimed to investigate the effects of using an interactive whiteboard (IWB) in vocabulary teaching. The target group was 51 11th-grade students of the academic year 2011. The research instruments consisted of 3 lesson plans, 3 IWB instructional media packets, post-teaching teacher's note, vocabulary knowledge test, students' participation observation form and attitude questionnaire. The data obtained were analyzed using percentage, means, standard deviation, and quality levels. The conclusions from the analyses indicated that after using the IWB, the students' vocabulary knowledge, participation and attitude were at a very good level.

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1. Introduction

According to the framework for 21st century learning, information, media and technology skills are essentially required for 21st century scholars due to the environment of technology and media. Competent people and workers must have critical thinking skills such as information literacy, media literacy and ICT (Information, Communications and Technology) Literacy. Almost all of the processes are based on the reading literacy skill, which is a very important linguist requirement for students studying literature as well as the other subjects in class (Geske & Ozola, 2008). Vocabulary knowledge and conceptual knowledge are closely related – a spoken word represents our known concepts in communicating with others (Leu & Kinzer, 2003). To communicate successfully and have positive academic performance, vocabulary has played an important role in students' communicative experiences. One of the technologies that enhance vocabulary teaching is IWB. The IWB is a giant sensitive board that is connected to a computer and digital projector, which reflects the computer's image onto a big touchable computer screen controlled electronic pen or finger (Vetter, 2009). Tataroglu & Erduran (2010) noted that we can access any software program or Internet projected onto the whiteboard. Glover et al (2005) added that the ability derived from the technology enables the learner to learn more quickly and effectively, it also assists teachers to

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bring back mandatory creative autonomy. Thus, this study was aimed to explore the factors that effected to IWB in vocabulary teaching.

2. Review of literature

By history, any languages have words and in any subsequence a language originated from a word, and in terms of the way we learned our first (Thornbuty, 2002). The heart of the first, second or foreign language acquisition is "vocabulary learning" (Decarrico, 2001). There are two steps of studying a language for learners are (1) to understand the meaning of vocabulary (words), and (2) to know the grammar-related sentence structure. Both steps are better in combination. No matter what they are in linguistics, the construction of an accurate sentence cannot be made without knowing the meanings of the appropriate vocabulary (Kritikou, et al, 2010). As soon as a language learner reaches an advance level, they have the knowledge of the fundamental structures of the language, and they would be able to communicate with other people well. But not enough, the advanced learners are required to know more words in order that they can make clear and suitable expression in any circumstances (Moras, 2001).

2.1. Teaching Techniques and Activities

Decarrico (2001) suggested that new vocabulary should not be ever presented either solely alone or by simple rote memorization. They must be presented in enriched contexts that are plenary enough to give guiding clues to their meanings, whereas the learners should be given several exposures to the items they are learning. It is essential to provide exercises or activities included learning words in word association lists, emphasizing key words in texts. The playing of vocabulary games and computer programs that include the pronunciation sounds of the vocabulary, as well as any illustrations or pictures, provide opportunity to practice in a variety of contexts, of which spoken and written are recommended.

The Requirements of Language-focused Vocabulary Instruction

With respect to the language-focused vocabulary instruction requirements, Nation and Newton (2009) noted that the word instruction of useful items should receive more attention instead of having more frequent information about words than any other segment of the language. It is a must for learners to have good control over the relatively small number of high frequency vocabulary. Without an effective command of language effectiveness it is hard to use the large existing key 2000 to 3000 words families - either in the spoken or written form. *A General Service List of English Words* (West, 1953 cited in Nation and Newton, 2009) and the Academic Word List (Coxhead, 2000 cited in Nation and Newton, 2009) have included those words. There are a total of about 6000 word families used in our simple spoken language (Nation, 2006 cited in Nation and Newton, 2009).

High Frequency Vocabulary Techniques

In the intensive reading requirement there are numbers of methods to implement;

- Before reading the whole passage, a select few words from the passage can be taught at an appropriate time period before the start of the real class reading. This emphasizes aspects of the vocabulary, their meaning, their senses, the technical usage restrictions, common collocations, grammar usage, and any appropriation of their use as being colloquial, impolite, and so on.
- After reading the text, the words should be included in an exercise that includes word family tables, word matching, meanings, collocation pattern classification, or key meaning work-outs.
- During the reading, we should look into the various vocabulary characteristics of the forms, meanings, and applications. However, this can often be very time consuming.

- As the glossary is a guide to helping vocabulary learning, it is necessary to make a glossary prior to the text being read by the learners.

Low Frequency Vocabulary Techniques

- Do not pay attention to the vocabulary itself.
- Use a translation, photograph, diagram, and L2 definition demonstration to rapidly give the meaning of the vocabulary.
- Before the students work on the text, replace more useful high frequency vocabulary in the text. The text can be made easy to help the learners get into the text more easily. This method will decrease the tension of unseen vocabulary.
- In order to save time in the class, a glossary should be made available prior to the learners seeing the text to allow understanding of the low frequency vocabulary. As a result, the glossary would help in ignoring the vocabulary in class. (Nation, 2009)

Observably the new word can be found in our communications, and the written input for these communicative activities can be an effective origin of a new word. Finally, in order to reach the outcome of a self-motivated drill in the classroom, new vocabulary can be met in activities where the individual works-out of the answers, but they could work equally as well for small groups or pairs (Nation, 1994).

2.2 Approaches to Teaching Vocabulary

As many teachers know how important pre-reading activities are, and they realize that the words should be learned in context. They consequently scan the vocabulary to find words that are unfamiliar to their classes, before giving assignment on that passage (Milulecky, 1990). The way of teaching particular vocabulary, for example, a session in introducing new words before the class reading started is called "direct instruction" (Beck, McKeown & Kucan, 2002, cited in Sedita, 2005). On the other hand, "indirect instruction" encourages students to improve vocabulary appreciation in which they participate in an enjoyable experience and the delightfulness of the word by sending them a number of new words and maintaining their reading levels (Baumann, Kame'enui & Ash, 2003, cited in Sedita, 2005).

3. Method

This study took place at a public high school in the northern region of Thailand with a total of 51 11th grade students. Three 50 minute-lesson plans of vocabulary (root, prefix and suffix) consisting of three steps; presentation, practice and production were given with three IWB instructional media packets. The students' participation observation form was conducted by teacher during the classes and after decoding the video recording was assessed on a 4 rating scales of response. Post-teaching teacher's written reflections were made by the researcher, a vocabulary knowledge test, including twenty multiple choice items, was implemented after learning through IWB, and a questionnaire with 8 items with 5 rating scales of attitude was administrated after using the IWB.

4. Research findings

4.1 Vocabulary Knowledge Test

Table 1: The result of the students' vocabulary knowledge test

	N	Minimum	Maximum	Mean	Std. Deviation	Level
vocabulary knowledge test	51	14	20	17.73	1.65	Very good

Table 1 shows the result of students' vocabulary knowledge is at a very good level. The mean is 17.73 with the standard deviation of 1.65. The highest score is 20, while the lowest one is 14.

4.2 Students' Participation Observation Form

Table 2: The result of students' participation

	Mean	Std. Deviation	Level
students' participation	7.94	1.24	Very good

Table 2 shows students' participation is at a very good level.

4.3 Attitude Questionnaire

Table 3. The result of students' attitude

No	Items of Evaluation	Mean	Std. Deviation	Results
1.	Enhance learning English	3.59	0.50	High
2.	Enhance lesson interest	4.12	0.68	High
3.	Participate in activities	3.92	0.69	High
4.	Have learning atmosphere	4.12	0.65	High
5.	Different from other normal English classroom	3.90	0.90	High
6.	Have happiness and enjoyment to learn with IWB	4.14	0.75	High
7.	Have good attitude in English class	3.96	0.72	High
8.	Require IWB in next English class	4.00	0.85	High
	Total	3.97	0.43	High

Table 3 shows students' attitude is at a high level.

5. Discussion and conclusions

Such a surprising achievement - it illustrates that implementing IWB in vocabulary teaching demonstrated success in students' academic performance not only in student participation in the classroom, but also their attitude. The result is at a very good level for the following reasons:

- Students' vocabulary knowledge is at a very good level. The word roots and affixes (suffixes and prefixes) are taught by direct methods (Sedita, 2005). Most lesson plans are those explaining specific meaning by several visual and audio tools of IWB that embeds students' learning experiences. The medium for students engaging new thing could be the IWB (Hall, 2009). The findings agree with the findings of the impact of IWB on teaching and learning. Cuthell (2005) showed that teachers who embraced an impact tool of IWB to assist all classroom learning, made it more meaningful than every single child, and that students' capabilities of seeing and recalling the meaning, their cognitive ability to manipulate it through their personal knowledge and understanding of language construction. Additionally, putting words systematically as based on their importance would help us to understand them easier (Schmitt, 1997; Sokmen, 1997 cited in McCarten, 2007). Language-based groups are based on linguistic rule that applied to grouping method, for example, the various of a word family in parts of speech; vocabulary with the same prefix or suffix, or the same sound; phrasal verbs; collocations of diverse categories (verb + noun; adjective + noun, etc.) (McCarten, 2007).

- Students' participation is also at a very good level. Using the IWB as an instructional tool has shown a significant increase in student participation. This occurs in report on the effect to employ IWB in a classroom on students' participation (Vetter, 2009). As is suggested by socio-cultural theory, Armstrong et al (2005) proposed that either students or teacher could operate IWB directly with a keyboard or electronic pen anywhere in the room because of a variety of the collaborative accessories on the active board.
- Students' attitude was at a very good level. The finding results are supported by Tataroglu (2010) revealed that students' interest, as well as motivation, are increased and their interest is captured after using IWB. Their attitudes were also at a medium level. As determined by the increase of presentation qualities of utilizing color, movement, either to disclose or to reveal for the purpose of learning or participation, it is clear that the motivation can be increased through IWB usage (Carr, 1999 cited in Glover, 2005). Similarly, technology promotes interactive multimedia characters of lesson plans and control student's attention and motivation (Gatlin, 2012).

The distinguished observation of students' participation dropped slightly at the end of the lesson if the IWB accommodated the whole period of teaching, instead it seems that they preferred this applicant as a facilitating tool just a part of the lesson. In conclusion, it is necessary for the teacher to integrate the IWB technology with the learning theory and pedagogy that impress learners' individual needs in order to guide the students' academic achievement to meet the final success.

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